



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MASSACHUSETTS 02109-3912

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

**JUN 19 2018**

BASF Corporation  
Attn: Mr. Joseph Guarnaccia  
100 Park Avenue  
Florham Park, New Jersey 07932

Re: PCB Risk-Based Disposal Approval under 40 CFR § 761.61(c)  
BASF Former Ciba-Geigy Facility – Lot 1102  
180 Mill Street / Cranston, Rhode Island

Dear Mr. Guarnaccia:

This is in response to the Notification<sup>1</sup> by the BASF Corporation (“BASF”) for approval of a PCB risk-based disposal plan under 40 CFR § 761.61(c) to address *PCB remediation waste* (e.g., soil and concrete) at its property located at 180 Mill Street in Cranston, Rhode Island. Specifically, PCB-contaminated soil and concrete in the Former Production Area (also referred to as Lot 1102 and hereinafter “the Site”), contain PCB concentrations that exceed the allowable PCB level for unrestricted use under the federal PCB regulations at 40 CFR § 761.61(a).

BASF has proposed a PCB risk-based disposal plan under 40 CFR § 761.61(c) to support potential future reuse of the property for recreational use, open space and parking. The proposed plan includes the following activities:

- ⇒ Remove PCB-contaminated soil with greater than or equal to (“≥”) 1 part per million (“ppm”) located within the FEMA Floodway Zone and dispose as a ≥ 50 ppm *PCB remediation waste* in accordance with 40 CFR § 761.61(a)(5)(i)(B)(2)(iii) or alternatively, dispose in accordance with 40 CFR § 761.61(a)(5)(i)(B)(2)(ii) if *in situ* PCB concentrations are less than (“<”) 50 ppm based on laboratory analysis;
- ⇒ Conduct post-excavation PCB sampling within the FEMA Floodway Zone in accordance with Subpart O to confirm PCB concentrations are < 1 ppm and backfill the excavation area with clean materials to existing grade or lower;

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<sup>1</sup> Information was submitted by AEI Consultants on behalf of BASF to support a risk-based disposal approach for PCB remediation waste under 40 CFR § 761.61(c). A list of the documents supporting the proposed action (“Administrative Record”) is included as Attachment 2 and will be referred to as the “Notification”.

- ⇒ Remove *PCB-remediation waste* (e.g., soil and concrete) located outside the FEMA Floodway Zone with greater than (“>”) 25 ppm and any additional *PCB remediation waste* with  $\geq 10$  ppm as necessary to achieve a PCB concentration of  $< 10$  ppm, as calculated by the 95% Upper Confidence Limit (“UCL”) on the mean PCB concentrations remaining on the Site;
- ⇒ Conduct post-excavation PCB sampling outside the FEMA Floodway Zone to confirm that all PCBs  $\geq 25$  ppm have been removed and that the PCB concentration of  $< 10$  ppm (based on the 95% UCL) has been achieved;
- ⇒ Backfill excavation areas located outside the FEMA Floodway Zone, including the SWMU-11 excavation area, with PCB-contaminated soil containing  $< 10$  ppm located in existing stockpile(s) on the Site or excavated from the FEMA Floodway Zone;
- ⇒ Construct a low permeability cap comprised of an impermeable high density polyethylene (“HDPE”) cover material or alternatively an existing *in situ* concrete slab; a permeable geotextile barrier; and 2 feet of clean soil or equivalent, over *PCB remediation waste* with  $\geq 10$  ppm but  $< 25$  ppm;
- ⇒ Construct a clean cap comprised of a permeable geotextile barrier (except for sewer easement) and minimum 2-foot clean soil cover or equivalent over *PCB remediation waste* with  $\geq 1$  ppm but  $< 10$  ppm;
- ⇒ Dispose of the excavated waste as a  $\geq 50$  ppm *PCB remediation waste* in accordance with 40 CFR § 761.61(a)(5)(i)(B)(2)(iii) or alternatively, dispose in accordance with 40 CFR § 761.61(a)(5)(i)(B)(2)(ii) if *in situ* PCB concentrations are less than (“<”) 50 ppm based on laboratory analysis;
- ⇒ Dispose of approximately 100 cubic yards (yd<sup>3</sup>) of PCB-contaminated soil generated during the May 2017 test pitting program as a  $\geq 50$  ppm *PCB remediation waste* in accordance with 40 CFR § 761.61(a)(5)(i)(B)(2)(iii); and,
- ⇒ Record a deed notice and/or environmental land use restriction (“ELUR”) to establish use restrictions to maintain industrial zoning, to prohibit disturbances of the clean caps, to provide for long-term operation and maintenance of the caps, and to detail any future soil handling practices and requirements at the Site.

The information provided meets the notification requirements under 40 CFR §§ 761.61(a)(3) and (c). Disposal of PCB-contaminated soil and concrete on the Site under a low permeability cap or clean soil cap will prevent direct exposure of PCB-contaminated media to any Site users and will not pose an unreasonable risk of injury to health or the environment provided the caps are maintained. EPA applies this reasonable risk standard in accordance with the PCB regulations at 40 CFR § 761.61(c), and the Toxic Substances Control Act, at 15 USC § 2605(e).

With respect to post-excavation verification sampling (not off-site disposal), BASF is proposing to use a field screening method (Method 9078) in conjunction with laboratory samples (Methods 3540/8082) for verification sampling outside the FEMA Floodway Zone. Within the FEMA Floodway Zone, all samples will be sent for laboratory analysis and Methods 3540/8082 will be used. For Method 9078, the field screening (Dexsil) results will be multiplied by a factor of 2 for purposes of determining if the  $\leq 25$  ppm and  $< 10$  ppm (based on the 95% UCL) PCB cleanup standards have been achieved and 20% of the samples will be sent for laboratory analysis. BASF also is proposing to initially collect samples for both field screening and laboratory analysis to support whether a lower "safety factor" can be used for decision making purposes. Based on these procedures, the Site size and the number of samples that have and will be collected, and in consideration that a final clean cap will be constructed across the Site, EPA has determined that use of the field screening method in conjunction with laboratory analysis is reasonable for verification sampling. EPA has determined that use of the alternative method in this manner, will not pose an unreasonable risk of injury to health or the environment. EPA applies this reasonable risk standard in accordance with the PCB regulations at 40 CFR § 761.61(c), and the Toxic Substances Control Act, at 15 USC § 2605(e).

BASF may proceed with its project in accordance with 40 CFR § 761.61(c); its Notification, which includes the Corrective Measures Implementation Work Plan dated September 8, 2017 and all its revisions; and, this Approval, subject to the conditions of Attachment 1. Under this Approval, EPA is reserving its right to require additional investigation or mitigation measures should it find that the implemented plan is not protective of health and/or the environment. Please be aware that this Approval requires a weekly status update to EPA and the Rhode Island Department of Environmental Management ("RIDEM") on the remediation activities (see Attachment 1, Condition 28) until the remediation project authorized under this Approval is completed.

Nothing in this Approval is intended or is to be construed to prejudice any right or remedy concerning PCBs or other federally-regulated contaminants at the Site otherwise available to the EPA under Section 6 of TSCA, 15 U.S.C. 2605, 40 CFR Part 761, or other provisions of federal law.

EPA encourages the compliance with greener cleanup practices for all cleanup projects, and recommends adherence to the ASTM Standard Guide to Greener Cleanups E2893-16 ("Guide") for work conducted under this Approval and the Notification. Greener Cleanups is the practice of integrating options that minimize the environmental impacts of cleanup actions in order to incorporate practices that maximize environmental and human benefit. Please see Section 6 of the Guide for the Best Management Practices ("BMP") Process published May 2016 (see [www.astm.org/Standards/E2893.htm](http://www.astm.org/Standards/E2893.htm) for additional information). EPA encourages you to review the Guide and implement any practices that are feasible. If implemented, the PCB Completion Report (see Attachment 1, Condition 30) should include a section on BMP Documentation, as described in Section 6.6.5 of the Guide.

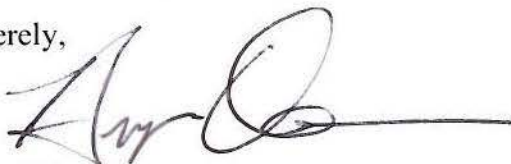
This Approval does not release BASF from any applicable requirements of federal, state or local law, including the requirements related to cleanup and disposal of PCBs or other contaminants under the RIDEM regulations, including any requirements related to groundwater monitoring or wetland restoration. Further, this Approval only addresses remediation of PCB-contaminated soil and concrete located within the Lot 1102 area. This Approval does not address sediments or groundwater, nor cleanup of PCB contamination identified outside of the Site area. If PCBs are identified in sediments, groundwater, or other locations outside of the Site area, this contamination shall be addressed under a separate plan and submittal to EPA (see Attachment 1, Condition 1).

Questions and correspondence regarding this Approval should be directed to:

Kimberly N. Tisa, PCB Coordinator (OSRR07-2)  
United States Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, Massachusetts 02109-3912  
Telephone: (617) 918-1527

EPA shall consider this project complete when it has received all submittals required under this Approval, including documents evidencing construction of the clean cap(s), establishment of financial assurance for cap monitoring and maintenance, and adoption of the deed restriction (e.g., ELUR). Please be aware that upon EPA receipt and review of the submittals, EPA may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR Part 761, the Notification, and this Approval.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Bryan Olson', with a long horizontal line extending to the right.

Bryan Olson, Director  
Office of Site Remediation & Restoration

Attachment 1: PCB Approval Conditions

Attachment 2: Administrative Record ("Notification")

cc: Richard Kowalski, AEI Consultants  
Jeff Crawford, RIDEM  
Frank Battaglia, EPA RCRA  
File

## ATTACHMENT 1

**PCB RISK-BASED DISPOSAL APPROVAL CONDITIONS  
BASF FORMER CIBA-GEIGY FACILITY  
LOT 1102 (FORMER PRODUCTION AREA), 180 MILL STREET  
CRANSTON, RHODE ISLAND**

### GENERAL CONDITIONS

1. This Approval is granted under the authority of Section 6(e) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e), and the PCB regulations at 40 CFR Part 761, and applies solely to *PCB remediation waste* identified in the Notification<sup>2</sup> and located within the area identified as "Lot 1102", hereinafter "the Site".
  - a. In the event that BASF Corporation ("BASF") identifies other PCB-contaminated wastes (i.e., PCBs not identified in the Notification, including sediment and groundwater) subject to cleanup and disposal under the PCB regulations, BASF will be required to notify EPA and to clean up the PCB-contaminated wastes in accordance with 40 CFR Part 761.
  - b. BASF shall submit a separate plan to address the PCB contamination or BASF may propose a modification to the Notification to incorporate cleanup of the PCBs under this Approval in accordance with Condition 22.
2. BASF shall conduct on-site activities in accordance with the conditions of this Approval and with the Notification.
3. In the event that the activities described in the Notification differ from the conditions specified in this Approval, the conditions of this Approval shall govern.
4. The terms and abbreviations used herein shall have the meanings as defined in 40 CFR § 761.3 unless otherwise defined within this Approval.
5. BASF shall comply with all applicable federal, state and local regulations in the storage, handling, and disposal of all PCB wastes, including PCBs, PCB Items and decontamination wastes generated under this Approval. In the event of a new spill during response actions, BASF shall contact EPA within twenty-four (24) hours for direction on sampling and cleanup requirements.

<sup>2</sup> Information was submitted by AEI Consultants on behalf of BASF to support a risk-based disposal approach for PCB remediation waste under 40 CFR § 761.61(c). A list of the submitted documents ("Administrative Record") is included as Attachment 2 and will be referred to as the "Notification".

6. BASF is responsible for the actions of all officers, employees, agents, contractors, subcontractors, and others who are involved in activities conducted under this Approval. If at any time BASF has or receives information indicating that BASF or any other person has failed, or may have failed, to comply with any provision of this Approval, it must report the information to EPA in writing within twenty-four (24) hours of having or receiving the information.
7. This Approval does not constitute a determination by EPA that any transporters or disposal facilities selected by BASF are authorized to conduct the activities set forth in the Notification. BASF is responsible for ensuring that its selected transporters and disposal facilities are authorized to conduct these activities in accordance with all applicable federal, state and local statutes and regulations.
8. This Approval does not: 1) waive or compromise EPA's enforcement and regulatory authority; 2) release BASF from compliance with any applicable requirements of TSCA, or of other federal, state or local law; or 3) release BASF from liability for, or otherwise resolve, any violations of TSCA or of other federal, state or local law.
9. Failure to comply with the Approval conditions specified herein shall constitute a violation of the requirement in 40 CFR § 761.50(a) to store or dispose of PCB waste in accordance with 40 CFR Part 761, Subpart D.

#### **NOTIFICATION AND CERTIFICATION CONDITIONS**

10. This Approval may be revoked if the EPA does not receive written notification from BASF of its acceptance of the conditions of this Approval within ten (10) business days of receipt.
11. BASF shall notify EPA in writing of the scheduled date of commencement of on-site activities at least one (1) business day prior to conducting any work under this Approval.
12. Prior to initiating onsite work under this Approval, BASF shall submit the following information for EPA review and/or approval:
  - a. a certification signed by its selected contractor, stating that the contractor(s) has read and understands the Notification, and agrees to abide by the conditions specified in this Approval; and,
  - b. a certification signed by the selected analytical laboratory, stating that the laboratory has read and understands the analytical and quality assurance requirements specified in the Notification and in this Approval.

## **REMEDIAL AND DISPOSAL CONDITIONS**

13. The cleanup level for *PCB remediation waste* (i.e., soil and concrete) shall be as described in the Notification.
  - a. Samples shall be collected and analyzed on a bulk basis (i.e., mg/Kg) and in accordance with frequencies and procedures specified under 40 CFR Part 761, Subpart O, as detailed in the Notification. Samples shall be collected from both excavation bottoms and sidewalls and analyzed for PCBs using either field screening or fixed laboratory methods. At a minimum, at least 20% of all field screening samples must be verified using fixed laboratory methods.
  - b. Samples for *porous surfaces* (e.g., concrete) shall be performed on a bulk basis (i.e., mg/kg) in accordance with EPA's *Standard Operating Procedure For Sampling Porous Surfaces for Polychlorinated Biphenyls* dated May 5, 2011 to a maximum depth of 0.5 inches.
  - c. For field screening using Method 9078, PCB results shall be multiplied by a factor of 2 for determining if the PCB cleanup standard (i.e., less than (" $<$ ") 10 parts per million ("ppm") and/or less than or equal to (" $\leq$ ") 25 ppm) has been achieved. BASF may submit for EPA's consideration, a request to decrease the safety factor if a method comparison study is conducted that supports such a request. Field screening data may not be used for determining off-site disposal requirements except as a greater than or equal to (" $\geq$ ") 50 ppm PCB waste.
  - d. For fixed laboratory methods, chemical extraction for PCBs shall be conducted using Methods 3500B/3540C of SW-846 for solid matrices and Method 3500B/3510C of SW-846 for aqueous matrices; and, chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another extraction or analytical method(s) is validated according to Subpart Q.
  - e. In the event that the fixed laboratory data results as compared to the field screening data indicate that the field screening data and/or safety factor are inadequate to conclude that the PCB standards have been achieved, EPA reserves its rights to require that all samples be extracted and analyzed for PCBs using fixed laboratory methods.
14. To the maximum extent practical, engineering controls shall be utilized to minimize the potential for PCB releases during the cleanup. In addition, to the maximum extent possible, disposable equipment and materials, including PPE, will be used to reduce the amount of decontamination necessary.
15. PCB waste (at any concentration) generated as a result of the activities described in the Notification, excluding any decontaminated materials, shall be marked in accordance with § 761.40; stored in a manner prescribed in § 761.65; and, disposed of in accordance with 40 CFR § 761.61, unless otherwise specified below:

- a. Decontamination wastes and residues shall be disposed of in accordance with 40 CFR § 761.79(g)(6).
- b. Moveable equipment, tools, and sampling equipment shall be decontaminated in accordance with either 40 CFR § 761.79(b)(3)(i)(A), § 761.79(b)(3)(ii)(A), or § 761.79(c)(2).
- c. PCB-contaminated water generated during decontamination or dewatering shall be decontaminated in accordance with 40 CFR § 761.79(b)(1) or disposed of under § 761.60.

#### **DEED NOTICE/RESTRICTION AND USE CONDITIONS**

- 16. Within sixty (60) days of completing the activities described in the Notification and authorized in the Approval, BASF shall submit for EPA review and approval, a draft deed notice/restriction for the Site. The deed notice/restriction shall include at a minimum: a description of the extent and levels of contamination remaining at the Site; a description of the actions taken at the Site; a description of the use restrictions and conditions for the Site; future excavation soil management requirements; and, the long-term monitoring and maintenance requirements for the Site cap(s), which may be addressed by the long-term monitoring and maintenance plan (see Condition 21). BASF shall incorporate any changes to the deed notice/restriction as deemed necessary by EPA.
- 17. Within ten (10) business days of receipt of EPA's approval of the draft deed notice/restriction, BASF shall:
  - a. Record the deed notice/restriction. A copy of this Approval shall be attached to the deed notice/restriction.
    - i) In the event that the deed notice/restriction is in the form of a land restriction that requires approval from the Rhode Island Department of Environmental Management ("RIDEM"), and where RIDEM approval is outstanding, within 30 days of receiving approval of the final notice/restriction language from RIDEM, BASF shall submit to EPA a signed certification, that the deed notice/restriction has been recorded as required under 40 CFR § 761.61(a)(8)(i)(A), with a copy of the recorded document.
  - b. Submit to EPA a signed certification verifying that the deed restriction has been recorded in accordance with 40 CFR § 761.61(a)(8), with a copy of the recorded document.

**SALE, LEASE OR TRANSFER CONDITIONS**

18. BASF and any future transferees of the Site will be subject to, and have the benefit of the following in connection with any subsequent sale, lease, or transfer of the Site:
- a. BASF shall notify the EPA of the sale, lease or transfer of any real estate interest in the Site that has an effect of allocating or sharing any responsibility for complying with the Approval to or with a different person. Such notice shall be in writing no later than sixty (60) days prior to such action. This notification shall include the name, address, and telephone number of the new entity acquiring such an interest in the affected property. In the event that BASF sells, leases or transfers such real estate interest, BASF shall continue to be bound by all the terms and conditions of this Approval, unless EPA approves the allocation of some or all of the Approval's responsibilities to the new owner(s), lessee or transferee. The notification procedures shall be as follows:
    - i) The new owner(s), lessee or transferee must request, in writing, that the EPA allocate some or all obligations and responsibilities under the Approval to the new owner(s), lessee or transferee;
    - ii) The EPA reviews the request, and determines whether to allocate some or all of the obligations and responsibilities under the Approval to the new owner(s), lessee, or transferee; and,
    - iii) The new owner(s), lessee or transferee provides written notification to the EPA of its acceptance of and intention to comply with the terms and conditions of the Approval or new approval, should EPA deem a new approval is necessary. The Approval or new approval may be withdrawn if the EPA does not receive written notification from the new owner(s), lessee or transferee of its acceptance of, and intention to comply with, the terms and conditions of the Approval or new approval within thirty (30) days of its receipt of the Approval or the new approval. Under such circumstances, all terms and conditions of this Approval will continue to be binding on BASF.
  - b. In the event that the sale, lease or transfer of a real estate interest in the Site will involve or result in a change in the use or zoning that was not considered under the Approval, EPA may revoke, suspend, and/or modify the Approval or the new approval if it finds, due to the change in use or zoning, that the PCB risk-based disposal action will pose an unreasonable risk of injury to health or the environment. BASF shall record any amendment to the deed restriction, resulting from any approved modification(s), within sixty (60) days of such change(s).

- c. In any sale, lease or transfer of a real estate interest in the property, BASF shall retain sufficient access rights to enable it to continue to meet the obligations under the Approval for maintenance and monitoring of the compliant caps, except as provided above.

#### **FINANCIAL ASSURANCE CONDITIONS**

19. Within 30 days of completion of work authorized under this Approval, BASF shall submit for EPA's review and approval, the proposed financial assurance mechanism(s) for the long-term care of the Site cap(s) consistent with 40 CFR §§ 264.144 and 264.145. BASF shall incorporate any changes to the financial assurance mechanism(s) as required by EPA.
20. Within 30 days of receipt of EPA's approval of the Monitoring and Maintenance Plan ("MMP") for Site cap(s) (see Condition 21), and financial assurance mechanism(s), BASF shall submit to EPA the final MMP and provide written documentation of establishment of the financial assurance mechanism(s).

#### **INSPECTION, MONITORING, MODIFICATION AND REVOCATION CONDITIONS**

21. Within 30 days of completion of work authorized under this Approval, BASF shall submit for EPA's review and approval, a detailed long-term monitoring and maintenance plan ("MMP") for the Site cap(s). BASF shall incorporate any changes to the MMP required by EPA.
  - a. The MMP shall include: a description of the activities that will be conducted, including inspection criteria, frequency, and routine maintenance activities; sampling protocols, sampling frequency, and analytical criteria; and reporting requirements.
  - b. The MMP shall include a communications component which details how the maintenance and monitoring results will be communicated to interested stakeholders.
  - c. The MMP also shall include a worker training component for maintenance workers or for any person that will be conducting work that could impact the Site cap(s).
  - d. The results of these long-term monitoring and maintenance activities shall be submitted to EPA. Based on its review of the results, EPA may determine that modification to the MMP is necessary in order to monitor and/or maintain the effectiveness of the cap(s).

- e. Activities required under the MMP shall be conducted until such time that EPA determines, in writing, that such activities are no longer necessary.
- 22. Any modification(s) in the plan, specifications, or information submitted by BASF, contained in the Notification, and forming the basis upon which this Approval has been issued, must receive prior written approval from the EPA. BASF shall inform the EPA of any modification, in writing, at least ten (10) days prior to such change. No action may be taken to implement any such modification unless the EPA has approved of the modification, in writing. The EPA may request additional information in order to determine whether to approve the modification.
- 23. If such modification involves a change in the use of the Site which results in exposures not considered in the Notification, the EPA may revoke, suspend, and/or modify this Approval upon finding that this risk-based disposal action may pose an unreasonable risk of injury to health or the environment due to the change in use. EPA may take similar action if the EPA does not receive requested information needed from BASF to make a determination regarding potential risk.
- 24. Any departure from the conditions of this Approval without prior, written authorization from the EPA may result in the revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.
- 25. Any misrepresentation or omission of any material fact in the Notification or in any future records or reports may result in the EPA's revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.
- 26. Approval for these activities may be revoked, modified or otherwise altered: if EPA finds a violation of the conditions of this Approval or of 40 CFR Part 761, including EPA's PCB Spill Cleanup Policy, or other applicable rules and regulations; if EPA finds that these activities pose an unreasonable risk of injury to health or the environment; if EPA finds that there is migration of PCBs from the Site; or if EPA finds that changes are necessary to comply with new rules, standards, or guidance for such approvals. BASF may apply for appropriate modifications in the event new rules, standards, or guidance comes into effect.
- 27. BASF shall allow any authorized representative of the Administrator of the EPA to inspect the Site and to inspect records and take samples as may be necessary to determine compliance with the PCB regulations and this Approval. Any refusal by BASF to allow such an inspection (as authorized by Section 11 of TSCA) shall be grounds for revocation of this Approval.

**RECORDKEEPING AND REPORTING CONDITIONS**

28. BASF shall submit a written weekly status report on its remediation activities to EPA and the RIDEM. Each weekly status report shall include PCB sample analytical results (i.e., Dexsil and laboratory results) with a figure showing the sample locations.
29. BASF shall prepare and maintain all records and documents required by 40 CFR Part 761, including, but not limited to, the records required by Subparts J and K. BASF shall maintain a written record of the cleanup and the analytical sampling for activities conducted under this Approval in one centralized location. All records shall be made available for inspection by authorized representatives of the EPA, until such time as EPA approves in writing a request for an alternative disposition of such records.
30. BASF shall submit a Final Completion Report (Report) in both hard copy and electronic format (CD-ROM) to the EPA within 120 days of completion of the activities described under this Approval. Laboratory analytical reports may be provided in electronic format only. At a minimum, this Report shall include:
  - a. a discussion of the project activities with sample data tables and figures, photo log and Greener Cleanups BMP documentation, if implemented; documentation of the compliant cap and surface cover construction; characterization and verification sampling analytical results with figures showing sampling locations; copies of the accompanying analytical chains of custody; field and laboratory quality control/quality assurance checks; an estimate of the quantity of PCBs removed and disposed off-site; copies of manifests and/or bills of lading or equivalent; a cost estimate for the PCB cleanup and disposal actions authorized and implemented under this Approval; copies of certificates of disposal or similar certifications issued by the disposer; the estimated cost of the implemented remediation activities; and,
  - b. a certification signed by BASF verifying that the authorized cleanup and disposal activities have been implemented in accordance with this Approval and the Notification.
31. Required submittals shall be mailed to:

Kimberly N. Tisa, PCB Coordinator (OSRR07-2)  
United States Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, Massachusetts 02109-3912
32. No record, report or communication required under this Approval shall qualify as a self-audit or voluntary disclosure under EPA audit, self-disclosure or penalty policies.

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**END OF ATTACHMENT 1**

## ATTACHMENT 2

### ADMINISTRATIVE RECORD BASF LOT 1102 180 MILL STREET CRANSTON, RHODE ISLAND

- *Corrective Measures Implementation Work Plan (CMI), BASF Former Ciba-Geigy Facility, September 8, 2017; as revised February 23, 2018; March 22, 2018; and, April 30, 2018.*
- *Frank Battaglia (EPA) to BASF. Concurrence on May 8, 2018 email to reflect revision to verification sampling plan for sidewall sampling. Email May 14, 2018.*
- *Rhode Island Department of Environmental Management, Office of Water Resources. Insignificant Alteration – Permit, May 11, 2018.*
- *Rick Kowalski (AEI Consultants) to EPA confirming Subpart O verification sampling with revised Appendix F page 18. Email May 8, 2018.*
- *Kim Tisa (EPA) to BASF. Clarification on Subpart O sampling requirements. Via email May 7, 2018.*
- *Rick Kowalski (AEI Consultants) to EPA. Transmittal of BASF responses to EPA verbal comments during April 26, 2018 conference call with changed pages to CMI as revised April 30, 2018. Email May 1, 2018.*
- *Frank Battaglia (EPA) to BASF. Acknowledgement that remedy approval will include reference to Statement of Basis and EPA TSCA Approval. Via email April 26, 2018.*
- *Rhode Island Department of Environmental Management, Remedial Approval Letter, March 29, 2018. Corrective Measures Implementation Plan Soil Remediation & Capping – Lot 1102.*
- *AEI Consultants to EPA. CMI, as revised March 22, 2018.*
- *Frank Battaglia (EPA) and Kim Tisa (EPA) to Jeff Crawford (RIDEM). Clarification on potential future use of Lot 1102 as described in March 22, 2018 CMI. Via email March 27, 2018.*
- *Joseph Guarnaccia (BASF) to EPA. Edits to proposed future use language and revised CMI text. Via email March 22, 2018.*
- *Joseph Guarnaccia (BASF) to EPA. Clarification on future use of Lot 1102 with cap and vegetative support layer. Via email March 20, 2018.*

- *Rick Kowalski (AEI Consultants) to EPA. Acknowledgement that a minimum of nine samples may not be sufficient to support a modification to the Dexsil multiplication factor. Email March 8, 2018*
- *Frank Battaglia (EPA) to BASF. EPA concurrence that Dexsil field method in conjunction with laboratory extraction/analysis data would be acceptable and advising that nine samples may not be sufficient to support a change to the Dexsil modification factor. Email February 27, 2018.*
- *Rick Kowalski (AEI Consultants) to EPA. Notification of BASF intent to use Dexsil field screening method in conjunction with laboratory extraction/analysis for post-excavation sampling. Email February 23, 2018.*
- *AEI Consultants to EPA. Corrective Measures Implementation February 23, 2018 (clean and red-lined versions for changed pages) and Responses to EPA Comments, as revised February 21, 2018.*
- *Frank Battaglia (EPA) to BASF. Clarification on the Dexsil multiplication factor and process for modification thereto. Via email January 25, 2018.*
- *Joseph Guarnaccia (BASF) to EPA. Request for clarification on Dexsil multiplication factor. Via email January 24, 2018.*
- *Frank Battaglia (EPA) to BASF. Clarification on the use of Dexsil and procedure for submission of CMI revisions. Via email January 23, 2018.*
- *Joseph Guarnaccia (BASF) to EPA. Confirmation on the use of geotextile in lieu of the snow fence and that change will be reflected in CMI. Via email January 20, 2018.*
- *Rick Kowalski (AEI Consultants) to EPA. Question on the use of Dexsil and procedure for submission of CMI revisions. Via email January 19, 2018.*
- *Frank Battaglia (EPA) to BASF. Agency determination that snow fence is not appropriate barrier as alternative to geotextile under the risk-based plan. Via email January 18, 2018.*
- *Rick Kowalski (AEI Consultants) to EPA. Estimate of cost for use geotextile in PCB-contaminated areas < 10 ppm. Email January 17, 2018.*
- *Kim Tisa (EPA) to BASF. Request for cost for use of geotextile in PCB-contaminated areas < 10 ppm. Email January 17, 2018.*
- *Rick Kowalski (AEI Consultants) to EPA. Estimate of cost comparison between geotextile and snow fencing for PCB-contaminated areas < 10 ppm. Email January 17, 2018.*

- *Kim Tisa (EPA) to BASF. Request for cost comparison between geotextile and snow fence in PCB-contaminated areas < 10 ppm. Email January 17, 2018.*
- *Rick Kowalski (AEI Consultants) to EPA. Clarification on where snow fencing rather than geotextile would be used. Email January 17, 2018.*
- *Jeff Crawford (RIDEM) to BASF. Clarification that snow fence could only be used as a marker barrier and not a substitute for the geotextile. Email January 17, 2018.*
- *Rick Kowalski (AEI Consultants) to EPA. Request to use orange snow fence as witness barrier where PCBs are < 10 ppm in lieu of geotextile. Email January 17, 2018.*
- *Frank Battaglia (EPA) to BASF. Concurrence with proposed change to text with recommendations for additional text changes. Via email January 11, 2018.*
- *Rick Kowalski (AEI Consultants) to EPA. Proposed language change to clarify liner installation, soil removal and construction of clean caps. Via emails December 22, 2017.*
- *Frank Battaglia (EPA) to BASF and RIDEM. EPA concurrence on proposed change to CMI text with recommendations for additional text changes. Via email December 21, 2017.*
- *Jeffrey Crawford (RIDEM) to BASF. Concurrence on revised soil remedy summary language. Via email December 20, 2017.*
- *Rick Kowalski (AEI Consultants) to EPA and RIDEM. Revised soil remedy summary. Via email December 19, 2017.*
- *Kelly Owens (RIDEM) to BASF. Clarification on EPA versus RIDEM comments. Via email December 18, 2017.*
- *Rick Kowalski (AEI Consultants) to RIDEM and EPA. Proposed edits to CMI summary text. Via email December 18, 2017.*
- *Kelly Owens (RIDEM) to BASF. Clarification on RIDEM requirements pertaining to leachability and PCB concentrations that will remain at the property. Via email December 18, 2017.*
- *Rick Kowalski (AEI Consultants) to RIDEM and EPA. Clarification on CMI text language. Via email December 18, 2017.*
- *Kelly Owens (RIDEM) to BASF. Question on CMI text language. Via email December 18, 2017.*

- *Rick Kowalski (AEI Consultants) to EPA and RIDEM. Concurrence on text language change with exception of RIDEM wetland requirements. Via email December 18, 2017.*
- *Frank Battaglia (EPA) to BASF. Recommended clarification and additions to CMI text pertaining to summary of the remedial action plan for soil. Via email December 14, 2017.*
- *Kim Tisa (EPA) to BASF. Clarification where deed restriction requirements under TSCA where PCBs remain on the property. Via email December 13, 2017.*
- *Kelly Owens (RIDEM) to BASF. Clarification on why "unrestricted use" language should not be used for site with ELUR. Via email December 13, 2017.*
- *Rick Kowalski (AEI Consultants) to EPA and RIDEM. Clarification on where geotextile will be used and that deed notice/ELUR will address the whole site for all PCB concentrations. Via emails December 13, 2017.*
- *Rick Kowalski (AEI Consultants) to EPA. Submission of proposed change to language pertaining to summary of the remedial action plan for soil. Via email December 12, 2017.*
- *Rick Kowalski (AEI Consultants) to EPA. Transmittal of Clean Earth information. Via email December 6, 2017.*
- *Kim Tisa (EPA) to BASF. Clarification that existing stockpile must be disposed at a TSCA-permitted disposal facility and request to confirm acceptability of Clean Earth for disposal of PCB waste. Via emails December 6, 2017.*
- *Rick Kowalski (AEI Consultants) to EPA. Clarification on existing stockpile and proposed disposal. Via email December 6, 2017.*
- *Frank Battaglia (EPA) to BASF. Question on origination of existing on-site stockpile. Via email December 5, 2017.*
- *Rick Kowalski (AEI Consultants) to EPA. Technical Memo on PCB Analysis Comparability Study. Via email December 5, 2017.*
- *Rick Kowalski (AEI Consultants) to EPA. Responses to EPA comments on September 2017 CMI. November 13, 2017.*
- *Joseph Guarnaccia (BASF) to EPA and RIDEM. Appendix C (dated July 13, 2017) to CMI pertaining to remedial objectives for site and thus basis for CMI as followup to November 3, 2017 conference call and EPA October 31, 2017 email. Via email November 3, 2017.*

- *Joseph Guarnaccia (BASF) to EPA. BASF re-statement of RCRA First team approach alignment with scope and intent developed from June to August [2017]. Via email November 2, 2017.*
- *Frank Battaglia (EPA) to BASF. EPA comments on CMI dated September 2017. Via email October 31, 2017.*
- *Rick Kowalski (AEI Consultants) to EPA. Clarification on IRM portion of the CMI as it pertains to wetlands and the RIDEM Approval dated October 13, 2017. Via email October 16, 2017.*
- *Jeffrey Crawford (RIDEM) to EPA. Compliance letter for Lots 111, 112, 114, and 2630 dated October 16, 2017.*
- *Frank Battaglia (EPA) to Jeffrey Crawford (RIDEM). Clarification on RCRA applicability and requirements on Lots 111, 112, 114, and 2630. Via email October 16, 2017.*
- *Jeffrey Crawford (RIDEM) to EPA. RIDEM Interim Remedial Measures Approval pertaining to floodplain dated October 13, 2017.*
- *Rick Kowalski (AEI Consultants) to EPA. Transmittal of Request for Proposal and Addendums to complete proposed Interim Remedial Measure for floodplain. Via email October 11, 2017.*
- *Jeffrey Crawford (RIDEM) to BASF. Comments on the September 8, 2017 Corrective Measures Implementation Plan. Via email October 4, 2017.*
- *AEI Consultants to EPA and RIDEM. Transmittal of September 8, 2017 CMI Workplan.*
- *Joseph Guarnaccia (BASF) to EPA. Confirmation of agreement to comply with RIDEM requirements for floodplain work. Via email August 23, 2017.*
- *Kelly Owens (RIDEM) to BASF. Clarification on approval for groundwater treatment plan and final cap designs. Via email August 16, 2017.*
- *Joseph Guarnaccia (BASF) to EPA. Transmittal of groundwater data for property. via email July 21, 2017.*
- *Rick Kowalski (AEI Consultants) to EPA. Transmittal of groundwater chromatograms. Via email July 19, 2017.*
- *Joseph Guarnaccia (BASF) to EPA and RIDEM. Lot 1102 soil remedy memo dated July 13, 2017. Via email July 14, 2017.*

- *Joseph Guarnaccia (BASF) to RIDEM. BASF expectation to comply with RCRA First approach with request to meet to discuss RIDEM requirements for incorporation into Remedial Action Work Plan. Via email June 25, 2017.*
- *Rick Kowalski (AEI Consultants) to EPA. Transmittal of PCB waste manifests and Lot 2630 revised figure with PCB sampling information. Via email April 12, 2017.*
- *April 4, 2017. BASF and EPA Meeting Handouts.*
- *Joseph Guarnaccia (BASF) to EPA. Proposed agenda topics for April 4, 2017 joint meeting.*
- *USEPA RCRA Corrective Action Statement of Basis. May 25, 2016.*